

REMARKS

This paper responds to the Office Action dated January 11, 2008.

Claims 1-37 were pending prior to this Amendment. In the office action dated January 11, 2008, the Examiner rejects all claims under 35 U.S.C. 103(a) and/or 35 U.S.C. 112, second paragraph. Each rejected claim has either been amended or canceled.

Indefiniteness

In the office action dated January 11, 2008, the Examiner rejects claims 1-37 as supposedly indefinite under 35 U.S.C. 112, second paragraph.

Regarding claim 1, the language identified by the Examiner as supposedly indefinite has been removed. Furthermore, the time period of the shock-cooling step is defined by the limitations "by means of heat transfer to the thermally conditioned profile tool, to yield a shock-cooled, solidified, dimensionally stable casing layer" and thus defining the shape of a CF – profile, while leaving the inner part of the CF – tapes melted. In other words, the shock-cooling time period is long enough to yield a solidified stable casing layer and to form the shape of the CF – profile defined by the solidified casing layer. Also, the shock-cooling time period is short enough so that an inner part of the CF – tapes remains melted and so that during the pressing of the LFT – mass together with the CF – profile, the casing layer is melted again at the surface and is thermoplastically melted together

with the surrounding LFT – mass. This is explained in the description and shown in Figures 1, 2, and 7.

Because the language identified as supposedly indefinite by the Examiner in claim 1 and all dependant claims (2-33) has been amended, the rejection of those claims under 35 U.S.C. 112 should therefore be withdrawn.

Regarding the Examiner's specific objection to claim 3 that "it is unclear how the entire LFT pressing manufacturing process of claim 1 can be only an injection molding process," the claim has been amended to recite that "the LFT – pressing manufacturing process comprises an LFT – injection moulding process."

Regarding claim 4, the claim has been amended to indicate that the LFT injection molding process of this claim is the same as referenced in claim 3.

Regarding claim 7, the claim has been amended to indicate that the profile tool of this claim is the same as referenced in claim 1.

Regarding claim 8, the claim has been amended to indicate that this claim requires more than one profile tool.

Regarding claim 10, the language "in plastic condition" has been removed and the claim has been amended to further specify that the claim applies to the "melted CF – tapes."

Regarding claim 18, the thermoplastic material consists of the recited materials and the language “partially crystalline polymers are” has been removed.

Regarding claim 24, the language has been amended to specify that a surface is “shock-cooled to a larger extent on one side than on the opposite side.”

Regarding claim 27, the term “slower” can be understood in light of the specification, Figure 7 and paragraphs 0039 and 0076.

Regarding the 35 U.S.C. 112 objection to claim 34, the claim has been amended to recite: “A structural component with partially crystalline thermoplastic material and with at least one CF - profile integrated in an LFT - mass, which is produced in a single stage LFT – pressing manufacturing process, the method comprising the steps of:

- melting impregnated CF – tapes in a heating station;
- subsequently transferring the melted CF – tapes into a two-part profile tool of a CF – profile forming station;
- within the CF – profile forming station, pressing the CF – tapes for a time period by means of heat transfer to the thermally conditioned profile tool, to yield a shock-cooled, solidified, dimensionally stable casing layer, an inner part of the CF – tapes remaining melted, and the CF – tapes defining a CF – profile;

- after the pressing and shock cooling, separating the CF – profile from the profile tool;
- after the separating, transferring the CF – profile into an LFT – tool and positioning the CF – profile in a defined manner;
- after the positioning, introducing a molten LFT – mass into the LFT – tool;
- pressing the LFT – mass together with the CF – profile;

so that during the pressing of the LFT – mass together with the CF – profile, the casing layer is melted again at the surface and is thermoplastically melted together with the surrounding LFT – mass and wherein the CF – profiles in a zone of a lower layer below the profile surface comprise an increased proportion of crystalline material.”

Regarding claim 37, the term “directed crystallization” has been amended to recite “a crystallization with a directed crystal growth through the contact surface.” This is disclosed in the specification (paragraph 0077) and indicated in Figure 7: where a directed crystallization (102) is shown going through the interface (9) between the CF – profile (10) and the LFT – mass (6).

Art Rejection

In the Office Action dated January 11, 2008, the Examiner rejects claims 30-33 as supposedly unpatentable over Kagi et al., cited by Applicant. The Office Action also rejects claims 33-37 as supposedly unpatentable over a two-way combination of Kagi and U.S. Patent 2,673,371 to Uhlig (“Uhlig”).

Regarding claim 33, this claim has been amended to depend on claim 1 and thus incorporates all limitations of claim 1.

Regarding claim 34, the amended claim referring to a structural component incorporates the shock-cooling feature of claim 1; the amended claim thus overcomes the reference to Kagi.

The amended claim 34 also incorporates a limitation “wherein the CF – profiles in a zone of a lower layer below the profile surface comprise an increased proportion of crystalline material.” This is disclosed in the description in Figure 7 and in paragraph 0039: “that the crystalline proportion is increased by slower cooling through the crystal growth temperature range DT_{kr}. For the improvement of non-deformability and bonding strength of the structural component.” This is also disclosed in paragraph 0076: “in a lower layer (13) below the profile surface an increased crystalline proportion 101 is generated.” This increased proportion of crystalline material for improved mechanical properties is in complete contrast to the teaching of cited reference Uhlig. Reference Uhlig teaches quite the opposite:

Here a thermoplastic article is cooled very rapidly from the molding temperature to well below the plastic transition temperature to maintain the major portion of the cooled plastic in an amorphous state (i.e. to reduce the crystalline portion as much as possible).

Therefore there is no indication of a structural component according to amended claim 34 in the References Kägi and Uhlig.

Regarding claim 37, the amended claim recites “a crystallization with a directed crystal growth through the contact surface.”

All claims should now be allowable.

Respectfully submitted,

/s/

Carl Oppedahl

USPTO Registration Number 32746